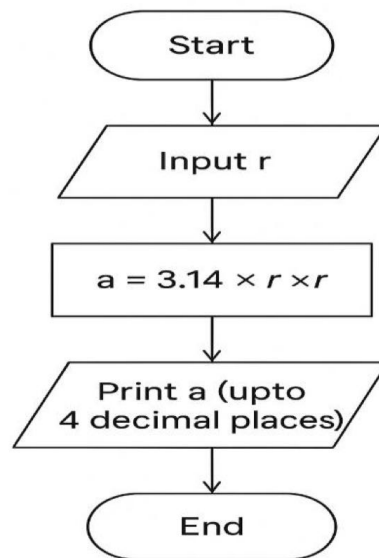


PROBLEM 1.1.1

Flowchart



Algorithm

Start

Input: Read the radius (r).

Process: Calculate the area by multiplying $3.14 * r * r$.

Output: Print the result (formatted to 4 decimal places).

Stop

The screenshot shows the CodeTANTRA web interface. The title bar indicates the user is logged in as 'nirmayee.kadam.batch2025@sitnagpur.siu.edu.in'. The main content area is titled '1.1.1. Area of Circle' and contains the following text:

Write a Python program that calculates the area of a circle when the radius is provided by the user. Use $\pi = 3.14$ and display the area.

Input Format:

- A single line containing a floating-point number representing the radius.

Output Format:

- Print the computed area of the circle formatted to 4 decimal places.

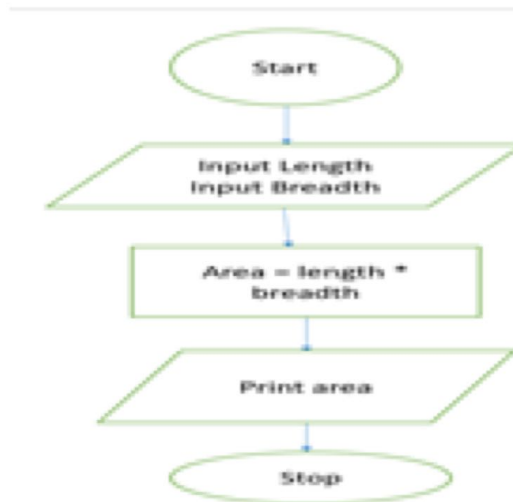
The code editor on the right shows the following Python code:

```
1 #Read the radius as a float
2 radius =float(input())
3
4 #define the value of pi
5 pi =3.14
6
7 #Print the area of the circle
8 area =pi*radius*radius
9
10 #Print the area of the circle formatted to 4 decimal places
11 print("The area of the circle is: %.4f" % area)
```

The output window at the bottom shows the result: 3629.8400, followed by the message '=== YOUR PROGRAM HAS ENDED ==='.

PROBLEM 1.1.2

Flowchart



Algorithm

Start

Input: Read length and width.

Process: Calculate the area by multiplying length *width.

Output: Print the result (formatted to 2 decimal places).

Stop

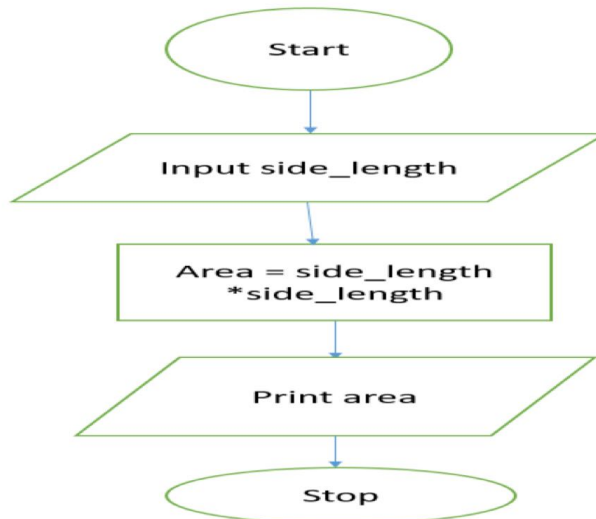
The screenshot shows the CodeTANTRA web-based IDE. The left sidebar contains the problem description for '1.1.2. Area of Rectangle', which asks for a Python program to calculate the area of a rectangle given its length and width. It includes the formula $\text{Area of Rectangle} = \text{Length} \times \text{Width}$, input format instructions, and output format instructions. The main editor displays a Python script that takes user input for length and width, calculates the area, and prints it formatted to two decimal places. The script is as follows:

```
1 length=float(input())
2 width=float(input())
3 area = length * width
4 print(f"area:.2f")
```

The output window at the bottom shows the execution results: the input values 34 and 35, the calculated area 1190.00, and a confirmation message '== YOUR PROGRAM HAS ENDED =='.

PROBLEM 1.1.3

Flowchart



Algorithm

Start

Input: Read the value for `side_length` from the user.

Process: Convert the input value to an integer.

Calculation: Calculate the area using the formula: $\text{Area} = \text{side_length}^2$

Output: Print the calculated area.

Stop

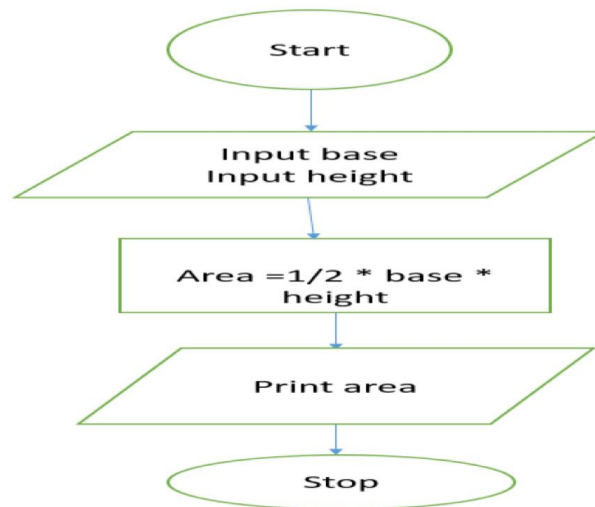
The screenshot shows the CODETANTRA IDE interface. On the left, the problem description for '1.1.3. Calculate Area of the Square' is visible, including the formula $\text{Area} = \text{side_length}^2$ and input/output format instructions. The main editor displays a Python script:

```
1 side_length=int(input())
2 area=side_length * side_length
3 print(area)
```

The output console at the bottom shows the execution result: `34` and `1156`, followed by the message `=== YOUR PROGRAM HAS ENDED ===`. The top navigation bar includes the CODETANTRA logo, a home button, the user's email `nirmayee.kadam.batch2025@sitnagpur.siu.edu.in`, a support link, and a logout button.

PROBLEM 1.1.4

Flowchart



Algorithm

Start

Input 1: Read the first value from the user and store it as base.

Input 2: Read the second value from the user and store it as height.

Calculation: Calculate the area using the formula = $\text{Area} = 0.5 \times \text{base} \times \text{height}$

Output: Print the calculated area, formatted to exactly two decimal places.

Stop

The screenshot shows a web-based code editor interface. On the left, a sidebar contains the title '1.1.4. Area of Triangle', a timer '00:43', and icons for search, edit, and share. Below the title, it says 'Write a Python program that prompts the user to enter the triangle's base and height and computes the triangle's area.' The formula 'Area of Triangle = 0.5 × base × height.' is displayed. Under 'Input Format:', it lists two bullet points: 'The first line of input is the float value that represents the base of the triangle.' and 'The second line of input is the float value that represents the height of the triangle.' Under 'Output Format:', it lists one bullet point: 'The output is the floating point value that represents the area of a triangle, formatted to two decimals.'

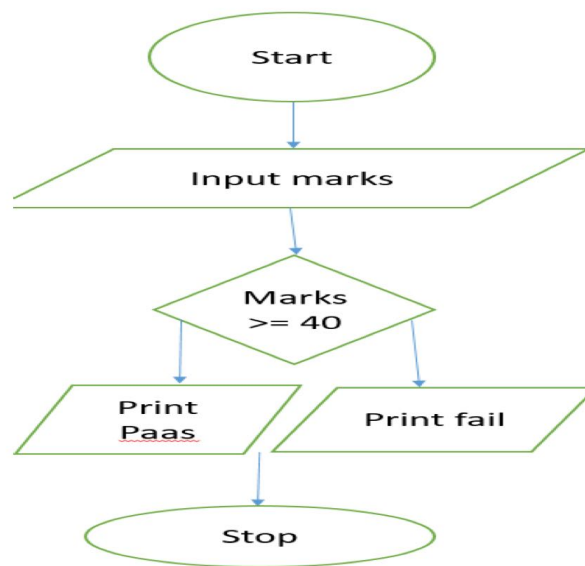
The main editor area shows a file named 'triangleA...' with the following Python code:

```
1 base=float(input())
2 height=float(input())
3 area_of_triangle=0.5*base*height
4 print(f"area_of_triangle:.2f")
```

On the right, a 'Debugger' panel shows the execution output: '34', '36', '612.00', and a message '=== YOUR PROGRAM HAS ENDED ==='. At the top right of the editor, there are links for 'Support' and 'Logout', and a 'Submit' button.

PROBLEM 1.1.5

Flowchart



Algorithm

Start

Input: Read the `marks` from the user.

Process: Convert the input to an integer.

Decision: Check if `marks` is greater than or equal to 40.

If Yes: Print "Pass".

If No: Print "Fail".

Stop

1.1.5. Student Pass or Fail Status

Write a Python program to determine whether a student passed the exam or not based on their marks.

Pass/Fail Criteria:

- A student passes if marks ≥ 40
- A student fails if marks < 40

Input Format:

- Single line contains an integer representing the marks obtained by the student.

Output Format:

- Print "Pass" if the student passed the exam.
- Print "Fail" if the student failed the exam.

```
1 marks = int(input())
2 if marks >= 40:
3     print("Pass")
4 else:
5     print("Fail")
```

50
Pass
== YOUR PROGRAM HAS ENDED ==